

Work Order ID 53879

November 23, 2009 10:57:29 AM



Page 1

Item ID: D4010-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Bearpaw

Start Date: 11/26/2009 Start Qty: 1200

166



Cust Item ID:

Required Date: 12/2/2009 Req'd Qty: 1200

Customer:

Reference:

Run Start



Stop



Approvals: Process Plan: mf

Date: 09-11-23 Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4010

C

100

0.00



HAND FINISHING THERMOFORMING

Thermoform

Memo

0.00

Thermoforming Machine

Cut Blanks to fit frame size

M113108

BB 09/12/01

X16

110

0.00



THERMOFORMING MACHINE

Thermoform

Memo

0.00

Thermoforming Machine

Thermoform as per Dwg. D4010-1 and Folio FTA067 temp using tool DT 9540

Dwg. Rev. 5

Folio Rev. B

BB 09/12/30

X16

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

Visually inspect for proper formation of each part

BB 09/12/30

X16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53879

November 23, 2009 10:57:29 AM



Page 2

Item ID: D4010-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Bearpaw

Start Date: 11/26/2009 Start Qty: 12.00



Cust Item ID:

Required Date: 12/2/2009 Req'd Qty: 12.00

Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

> 809/12/14

816

4

140

HAND FINISHING THERMOFORMING

0.00



Thermoform

Memo

0.00

Thermoforming Machine

Trim to Finished Dimensions as per dwg D4010-1

BB 09/12/14
816

150

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

Check dimensions to ensure conformity to drawing tolerances.

BB 09/12/14
816

W/O:		WORK ORDER CHANGES					
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Work Order ID 53879

November 23, 2009 10:57:29 AM



Page 3

Item ID: D4010-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Bearpaw

Start Date: 11/26/2009 Start Qty: 12.00



Cust Item ID:

Required Date: 12/2/2009 Req'd Qty: 12.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00

2) 809/12/14

(+16) f

QC

Memo

0.00

Quality Control

170

Identify as per dwg & Stock Location: _____

0.00

53878 X12 - BB 09/12/15.

4 TO STORES. 5/20/08 - 10/14/15 (4)

Packaging

Memo

0.00

Packaging

180

QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

Quality Control

09/12/17 9/12/15
16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

Date & initial all entries

Picklist Print

December 14, 2009 3:17:05 PM

Page 1

Work Order ID: 53879



Parent Item: D4010-1



Parent Item Name: Bearpaw



Start Date: 11/26/2009

Required Date: 12/2/2009

Comments: IPP Rev B 09/11/03 Drawing changed to accomidate OEM and Dart Skidtube.
DL. Verified by:DD.

Start Qty: 12.00

Required Qty: 12.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
M-ALXTRAB-S.300		Purchased	No			100	sf	915.1333	89.7347			
												
Alextra ET 0 .300 sheet												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

MAT

113108

915.1333

915.1333

09/11/30

BB

X16

DART AEROSPACE LTD	Work Order: 53879,
Description: BEARPAW	Part Number: D4010-1
Inspection Dwg: D4010 Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than "	✓			
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: BB	Date: 09/12/10
-----------------	----------------

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.0		1.027	✓			
.375		.365	✓			
1.250	± .13	1.2	✓			

Measured by: BB	Date: 09/12/10
Audited by: J	Date: 02/12/14
Prototype Approval: N/A	Date: N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/DL	

DART AEROSPACE LTD		Work Order:	538 79
Description: <u>BRAN PAW 407</u>		Part Number:	<u>D4010</u>
Inspection Dwg: <u>D4010</u> Rev: <u>C</u>		Page 1 of 1	

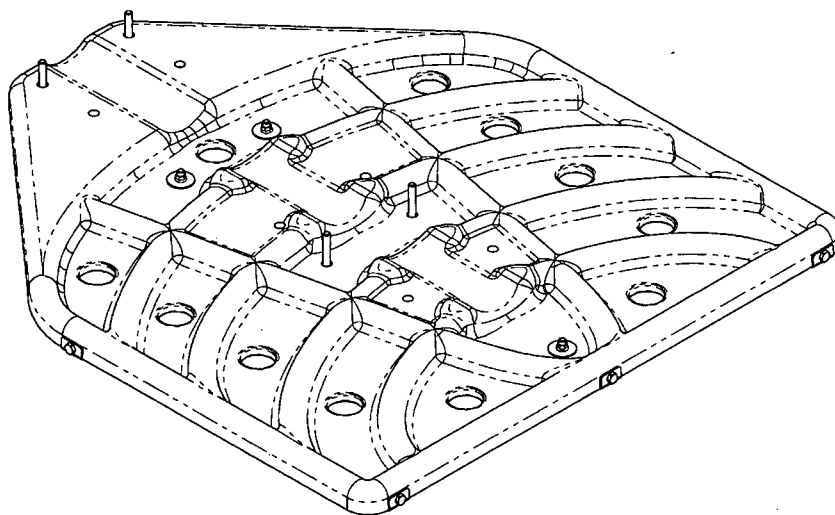
FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
12.00 "	± 0.25 "	11.875 "	✓		Tape Measure	
5.50 "	± 0.30 "	5.5	✓			
9.50 "	± 0.30 "	9.5	✓			
11.81 "	± 0.30 "	11.825	✓			
16.96 16.69 "	± 0.30 "	16.660	✓	✗		
20.94 "	± 0.30 "	20.875	✓			
23.25 "	± 0.30 "	23.25	✓			
24.66 "	± 0.25 "	24.45	✓			
2.34	± 0.25 "	2.25	✓			
0.30	± 0.30 "	0.264		✗	Depth throat micrometer	
0.41			→ See	Note #10		
1.0	± 0.100 "	0.970	✓		Vern	
Ø 1.25	± 0.13 "	1.248	✓		Vern	
Ø 0.375	± 0.006 / ± 0.001	0.375	✓	✗	Vern	

Measured by: <u>JB</u>	Audited by: <u>S</u>	Prototype Approval:	N/A
Date: <u>02/12/14</u>	Date: <u>02/12/14</u>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	



#53879

D4010-041 BEARPAW ASSEMBLY (407)

RELEASED
2009-11-26
MT

C	OPTIMIZED DESIGN BASED ON FUNCTIONALITY AND TO EASE MANUFACTURING	MB	09.11.10
B	REDESIGNED, ADDED PROVISIONS FOR COMPATIBILITY WITH OEM SKIDTUBES/SADDLES; REDEFINED SOME TOLERANCE	MB	09.11.02
A	NEW ISSUE	MB	09.10.22
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	AS	DRAWING NO.	REV. C
MFG. APPR.		D4010	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BEARPAW (407)	NTS
DATE	09.11.10	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

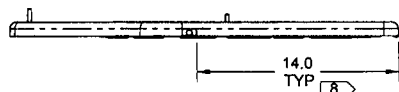
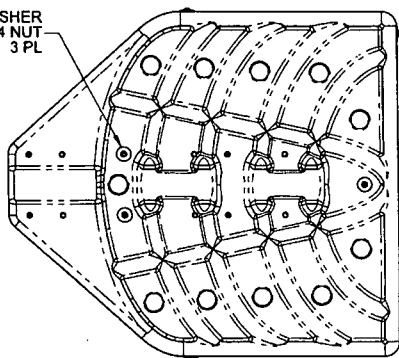
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

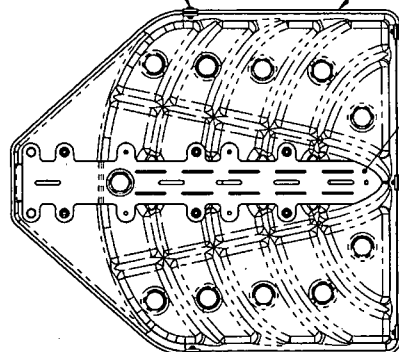
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NOTE: Date & initial all entries

D3456-1 WASHER
MS21043-4 NUT
3 PL



AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT



AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

D4010-041 BEARPAW ASSEMBLY (407)

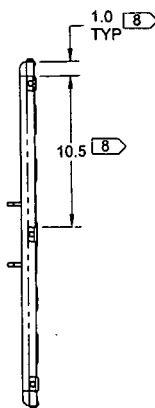
D4010-1
BEARPAW

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

D4013-041 WEARPLATE
ASSEMBLY

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT



#53879

ITEM	QTY -041	P/N	DESCRIPTION
1	X	D4010-041	BEARPAW ASSEMBLY (407)
3	3	D3456-1	WASHER
4	1	D4010-1	BEARPAW
5	1	D4013-041	WEARPLATE ASSEMBLY
6	5	D4015-041	WEARBAR
21	5	AN3C5A	BOLT
22	5	MS21043-3	NUT
23	3	MS21043-4	NUT

RELEASED
2009-11-24

D4010-041 NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 9.41 lbs
- 8) LOCATE D4015-041 (ITEM 5) AS SHOWN AND TRANSFER DRILL Ø0.191" HOLE FROM D4015-041 TO D4010-1 BEARPAW AND FASTEN USING PRESCRIBED HARDWARE.
- 9) TORQUE: AN3 NUTS = 15-20 in-lb
AN4 NUTS = 50-70 in-lb

DESIGN	1	DART AEROSPACE LTD	
DRAWN	2	HAWKESBURY, ONTARIO, CANADA	
CHECKED	3	DRAWING NO.	REV. C
MFG. APPR.	4	D4010	SHEET 2 OF 3
APPROVED	5	TITLE	SCALE
DE APPR.	6	BEARPAW (407)	NTS
DATE	09.11.10	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

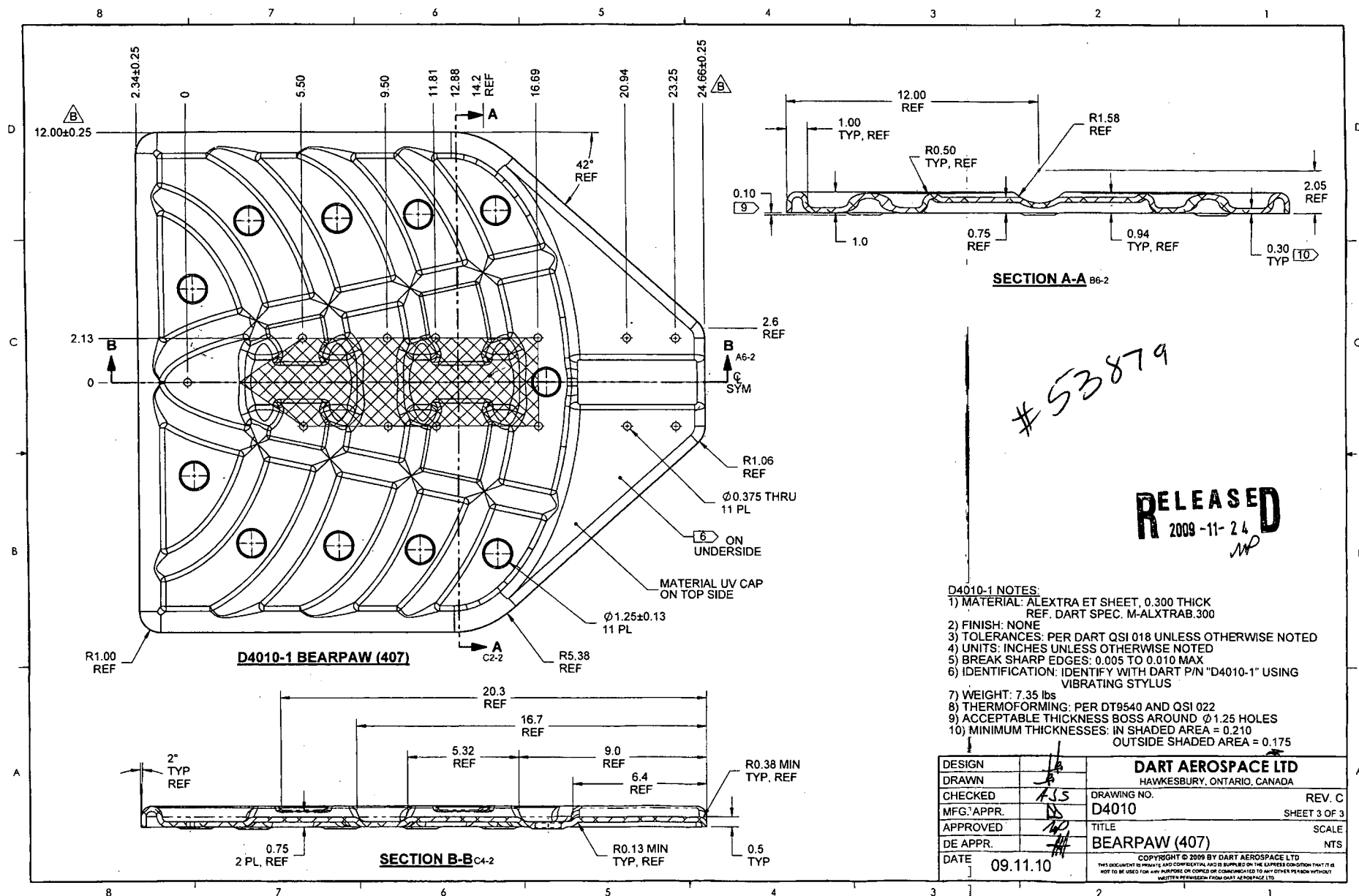
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